PL2303HXD Android Development Package

Prolific
TECHNOLOGY FOR TOMORROW

Agenda

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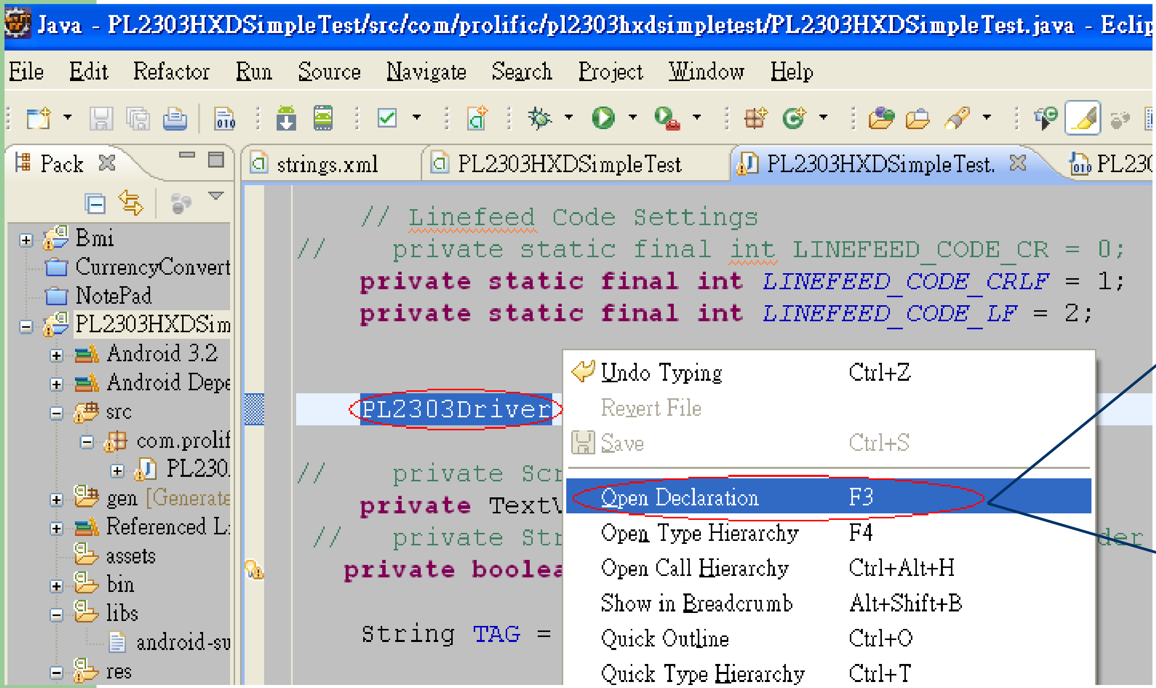
PL2303Driver Class Declaration

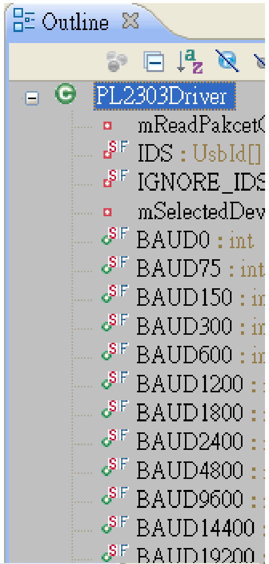


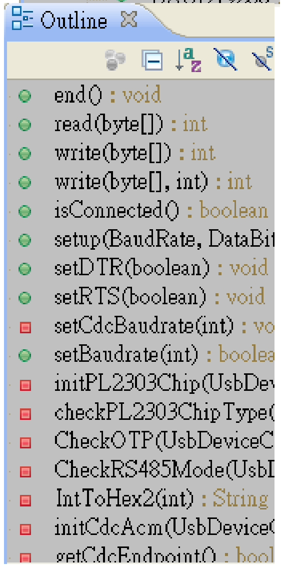
```
    // Linefeed Code Settings
//    private static final int LINEFEED_CODE_CR = 0;
    private static final int LINEFEED_CODE_CRLF = 1;
    private static final int LINEFEED_CODE_LF = 2;


    PL2303Driver

//    private Scr
    private TextV
 //   private Str                              der
   private boolea

    String TAG =
```





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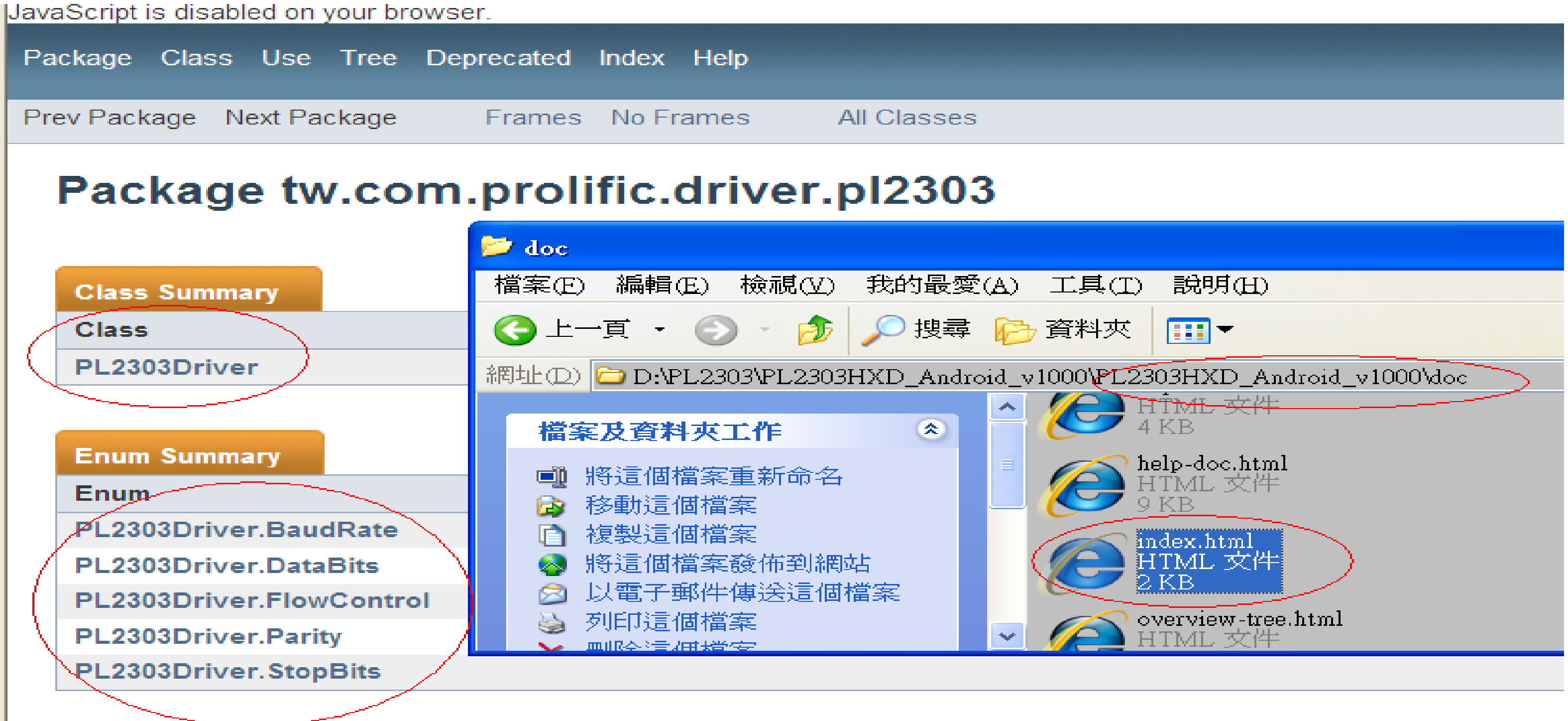
Documents Index

- PL2303HXD_Android_v1000\doc\Index.html

To develop Android AP need to refer to the doc files, the start file as index.html



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Package tw.com.prolific.driver.pl2303

Class Summary
Class
PL2303Driver

Enum Summary
Enum
PL2303Driver.BaudRate
PL2303Driver.DataBits
PL2303Driver.FlowControl
PL2303Driver.Parity
PL2303Driver.StopBits

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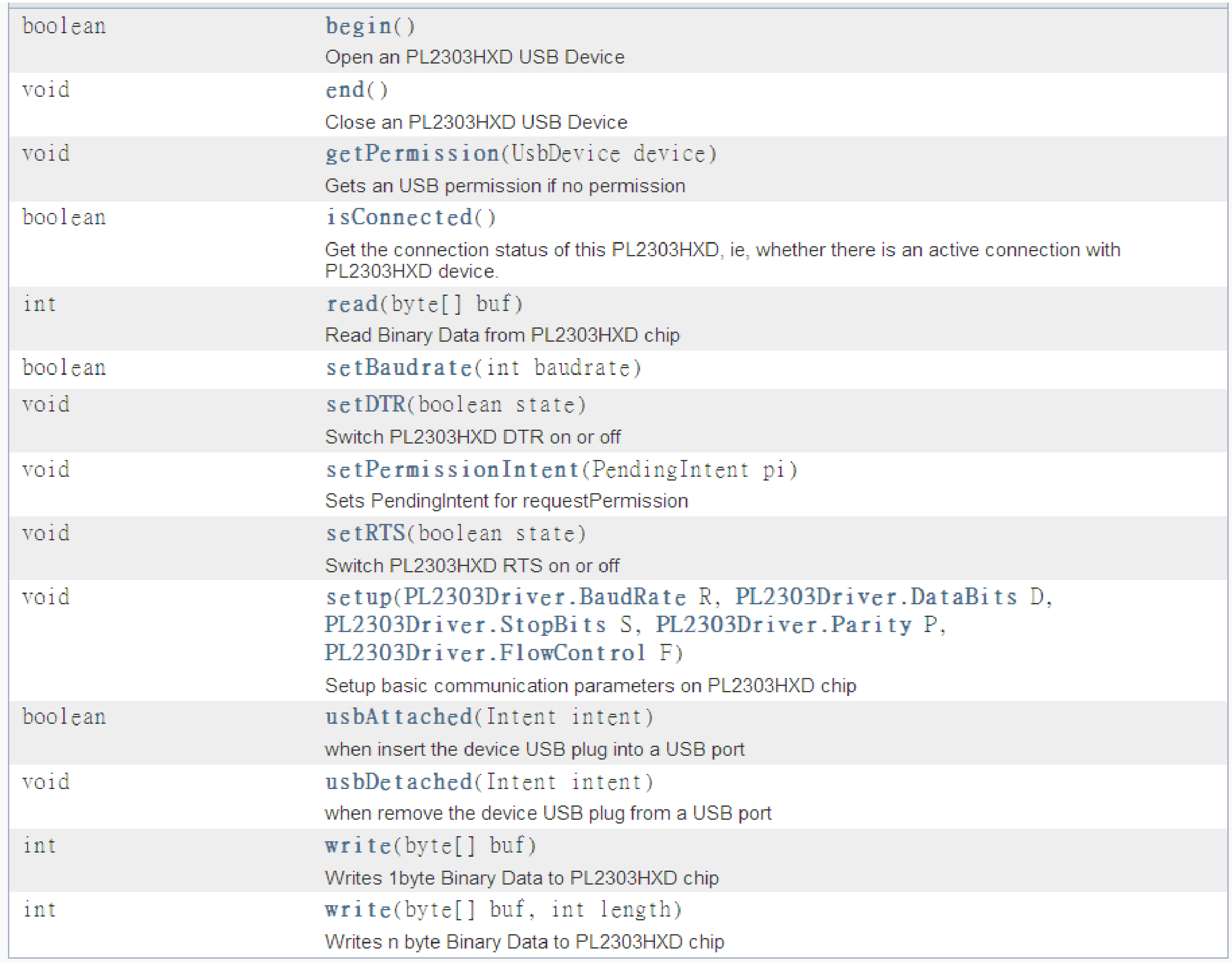
PL2303Driver Class



boolean	**begin**() Open an PL2303HXD USB Device
void	**end**() Close an PL2303HXD USB Device
void	**getPermission**(UsbDevice device) Gets an USB permission if no permission
boolean	**isConnected**() Get the connection status of this PL2303HXD, ie, whether there is an active connection with PL2303HXD device.
int	**read**(byte[] buf) Read Binary Data from PL2303HXD chip
boolean	**setBaudrate**(int baudrate)
void	**setDTR**(boolean state) Switch PL2303HXD DTR on or off
void	**setPermissionIntent**(PendingIntent pi) Sets PendingIntent for requestPermission
void	**setRTS**(boolean state) Switch PL2303HXD RTS on or off
void	**setup**(PL2303Driver.BaudRate R, PL2303Driver.DataBits D, PL2303Driver.StopBits S, PL2303Driver.Parity P, PL2303Driver.FlowControl F) Setup basic communication parameters on PL2303HXD chip
boolean	**usbAttached**(Intent intent) when insert the device USB plug into a USB port
void	**usbDetached**(Intent intent) when remove the device USB plug from a USB port
int	**write**(byte[] buf) Writes 1byte Binary Data to PL2303HXD chip
int	**write**(byte[] buf, int length) Writes n byte Binary Data to PL2303HXD chip

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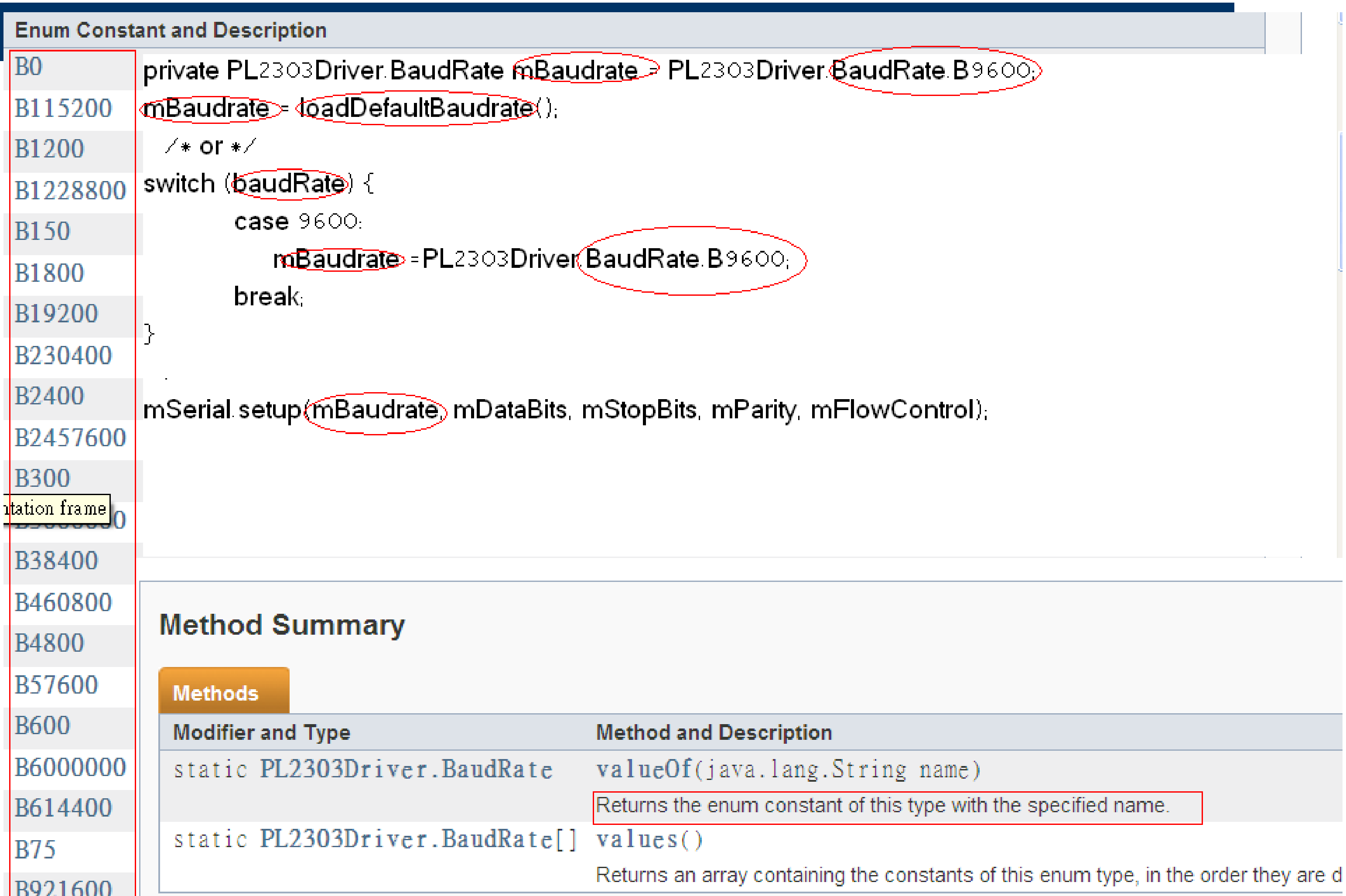
PL2303Driver.BaudRate Class



Enum Constant and Description

B0
B115200
B1200
B1228800
B150
B1800
B19200
B230400
B2400
B2457600
B300
tation frame
0
B38400
B460800
B4800
B57600
B600
B6000000
B614400
B75
B921600

```
private PL2303Driver.BaudRate mBaudrate = PL2303Driver.BaudRate.B9600;
mBaudrate = loadDefaultBaudrate();
  /* or */
switch (baudRate) {
        case 9600:
            mBaudrate = PL2303Driver.BaudRate.B9600;
            break;
}

mSerial.setup(mBaudrate, mDataBits, mStopBits, mParity, mFlowControl);
```

Method Summary

Methods

Modifier and Type	Method and Description
`static PL2303Driver.BaudRate`	`valueOf(java.lang.String name)` Returns the enum constant of this type with the specified name.
`static PL2303Driver.BaudRate[]`	`values()` Returns an array containing the constants of this enum type, in the order they are d

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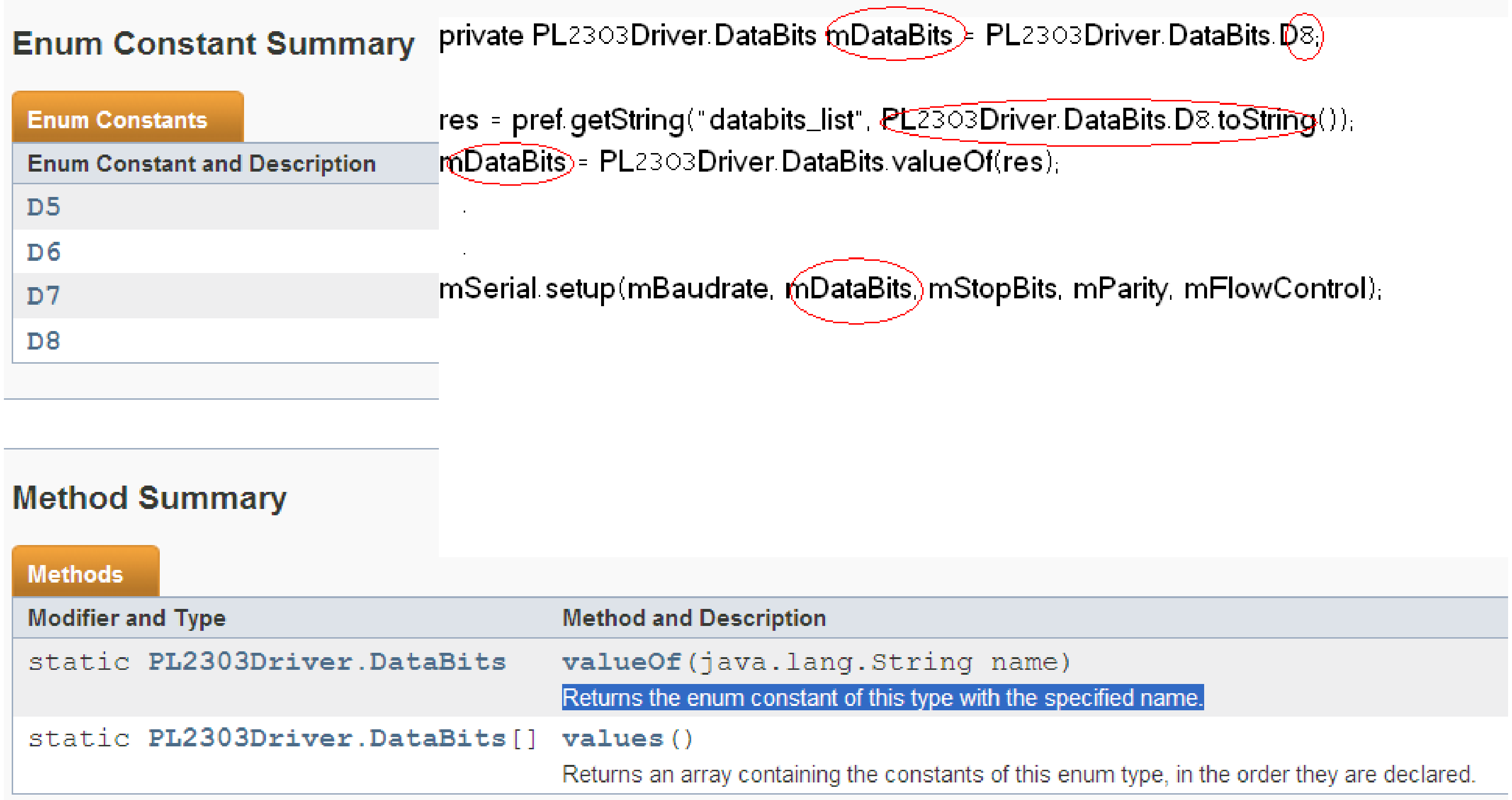
PL2303Driver.DataBits Class



Enum Constant Summary

Enum Constants

Enum Constant and Description
D5
D6
D7
D8

```
private PL2303Driver.DataBits mDataBits = PL2303Driver.DataBits.D8;

res = pref.getString("databits_list", PL2303Driver.DataBits.D8.toString());
mDataBits = PL2303Driver.DataBits.valueOf(res);
  .
  .
mSerial.setup(mBaudrate, mDataBits, mStopBits, mParity, mFlowControl);
```

Method Summary

Methods

Modifier and Type	Method and Description
`static PL2303Driver.DataBits`	`valueOf(java.lang.String name)` Returns the enum constant of this type with the specified name.
`static PL2303Driver.DataBits[]`	`values()` Returns an array containing the constants of this enum type, in the order they are declared.

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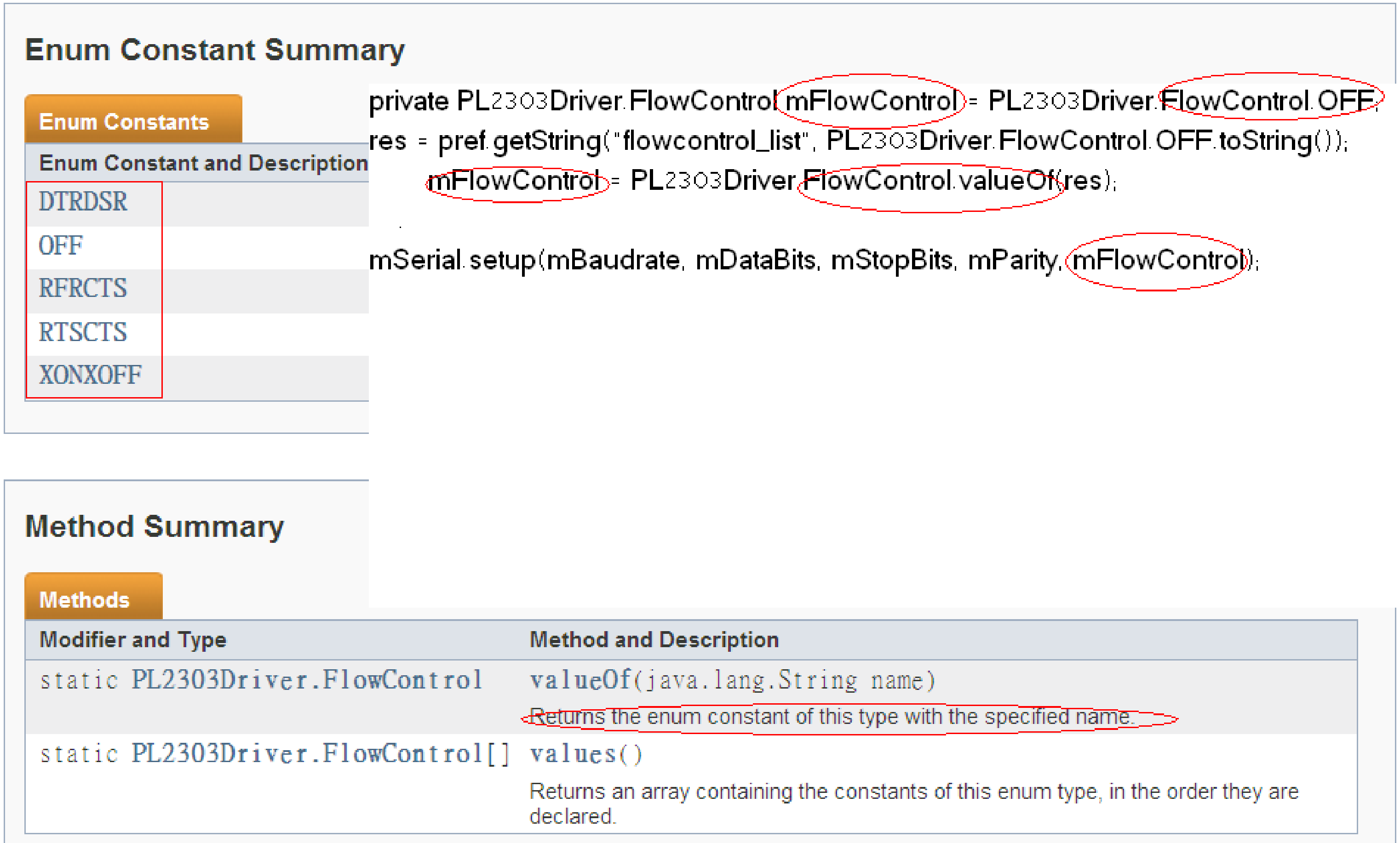
PL2303Driver.FlowControl Class



Enum Constant Summary

Enum Constants

Enum Constant and Description
DTRDSR
OFF
RFRCTS
RTSCTS
XONXOFF

```
private PL2303Driver.FlowControl mFlowControl = PL2303Driver.FlowControl.OFF;
res = pref.getString("flowcontrol_list", PL2303Driver.FlowControl.OFF.toString());
      mFlowControl = PL2303Driver.FlowControl.valueOf(res);

mSerial.setup(mBaudrate, mDataBits, mStopBits, mParity, mFlowControl);
```

Method Summary

Methods

Modifier and Type	Method and Description
`static PL2303Driver.FlowControl`	`valueOf(java.lang.String name)` Returns the enum constant of this type with the specified name.
`static PL2303Driver.FlowControl[]`	`values()` Returns an array containing the constants of this enum type, in the order they are declared.

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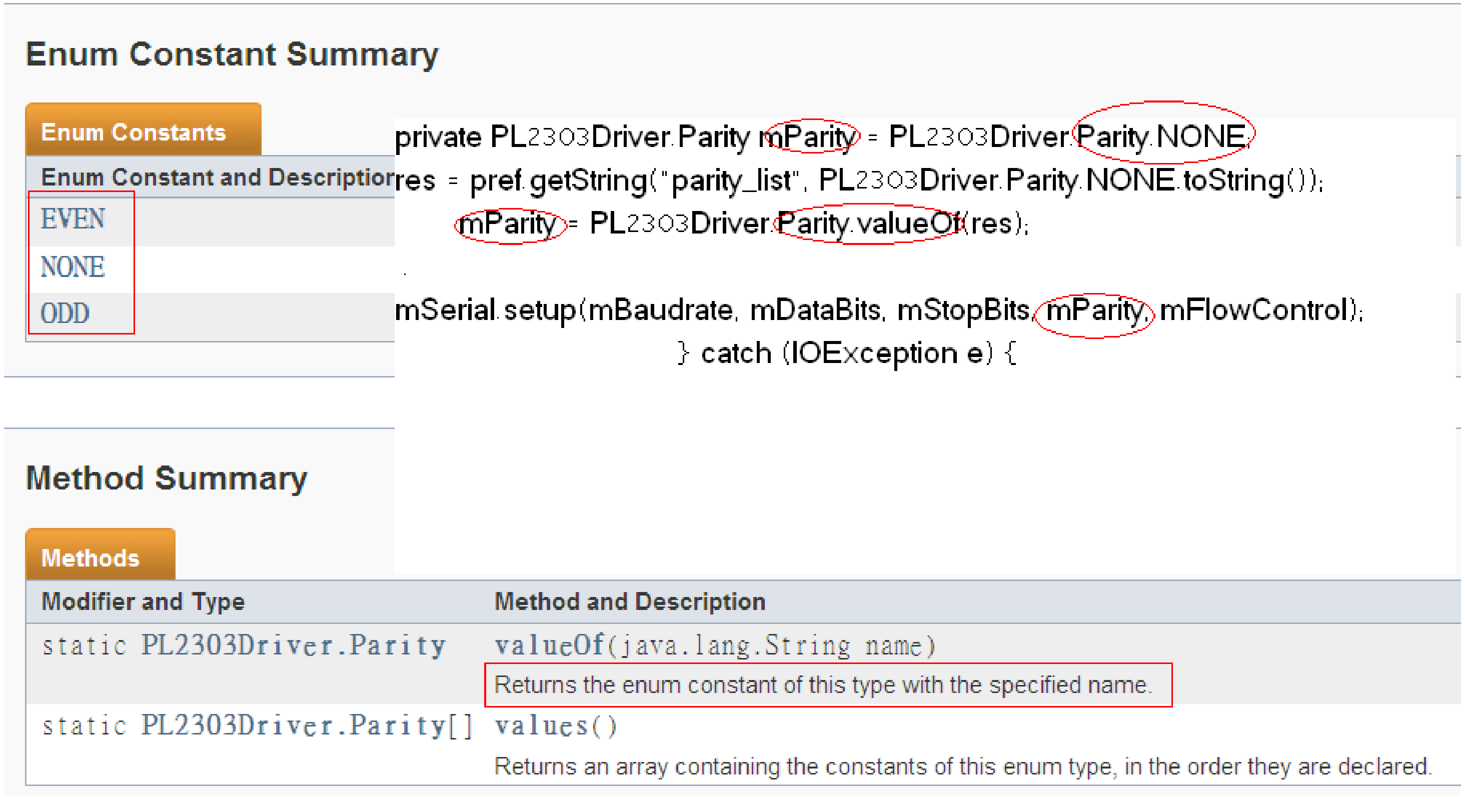
PL2303Driver.Parity Class



Enum Constant Summary

Enum Constants

Enum Constant and Descriptio
EVEN
NONE
ODD

```
private PL2303Driver.Parity mParity = PL2303Driver.Parity.NONE;
res = pref.getString("parity_list", PL2303Driver.Parity.NONE.toString());
      mParity = PL2303Driver.Parity.valueOf(res);
.
mSerial.setup(mBaudrate, mDataBits, mStopBits, mParity, mFlowControl);
                              } catch (IOException e) {
```

Method Summary

Methods

Modifier and Type	Method and Description
`static PL2303Driver.Parity`	`valueOf(java.lang.String name)` Returns the enum constant of this type with the specified name.
`static PL2303Driver.Parity[]`	`values()` Returns an array containing the constants of this enum type, in the order they are declared.

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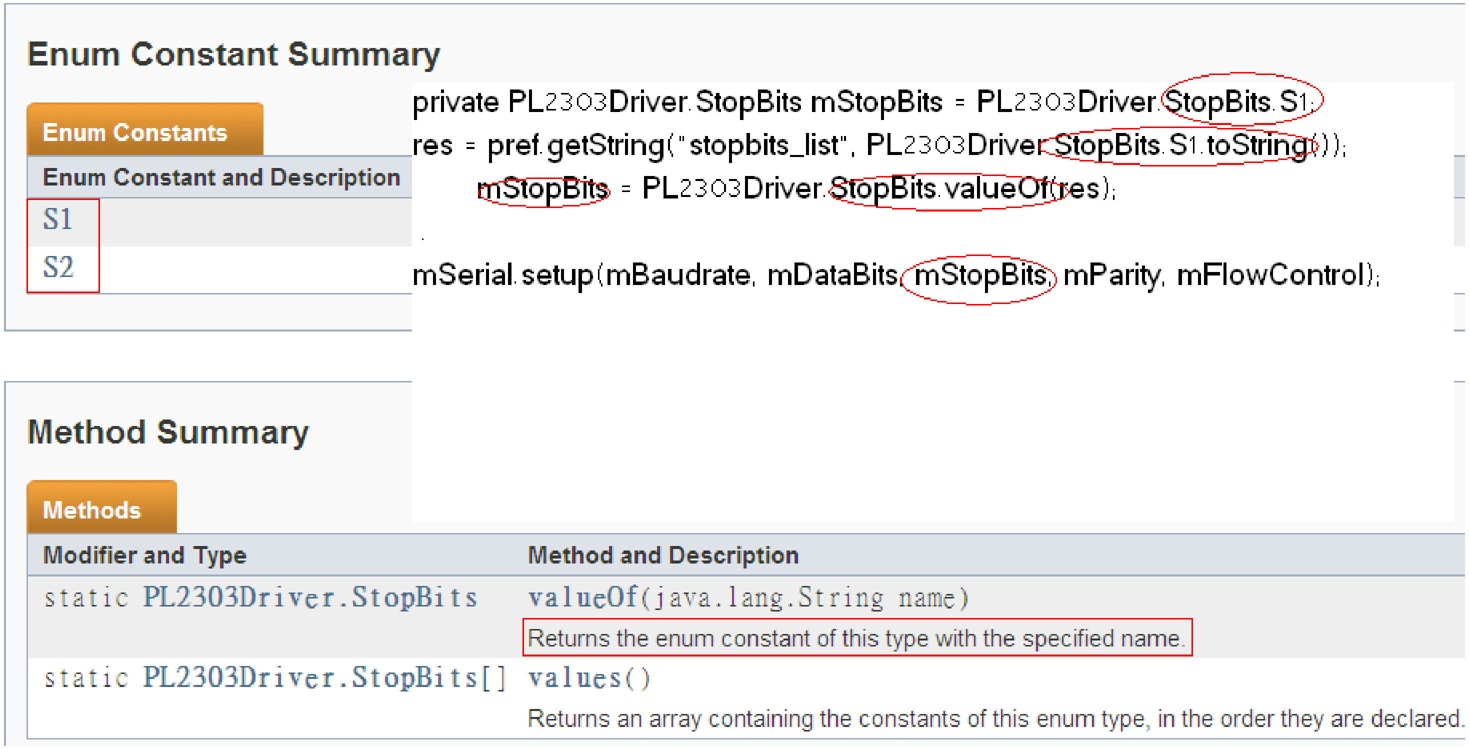
PL2303Driver.StopBits Class



Enum Constant Summary

Enum Constants

Enum Constant and Description
S1
S2

```
private PL2303Driver.StopBits mStopBits = PL2303Driver.StopBits.S1;
res = pref.getString("stopbits_list", PL2303Driver.StopBits.S1.toString());
     mStopBits = PL2303Driver.StopBits.valueOf(res);
.
mSerial.setup(mBaudrate, mDataBits, mStopBits, mParity, mFlowControl);
```

Method Summary

Methods

Modifier and Type	Method and Description
static PL2303Driver.StopBits	valueOf(java.lang.String name) Returns the enum constant of this type with the specified name.
static PL2303Driver.StopBits[]	values() Returns an array containing the constants of this enum type, in the order they are declared.

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Implementing USB Interface in Android

- Implementation of a broadcast receiver (BroadcastReceiver) detect USB interface.

- Android framework layer TelephonyManager underlying remote service tracking, final PendingIntent to track.

- http://torvafirmus-android.blogspot.tw/

- **SMS Example: Use registerReceiver, SmsManager, PendingIntent**

http://shung007.blogspot.tw/2012/04/tqc-android-3-7-use-registerreceiver.html

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Dynamically registered BroadcastReceiver

```
/* listen for new devices */
IntentFilter filter = new IntentFilter();

/* BroadcastReceiver specified action, that is to listen for the
message name */
filter.addAction(UsbManager.ACTION_USB_DEVICE_ATTACHED );
filter.addAction(UsbManager.ACTION_USB_DEVICE_DETACHED);

/* Register listener*/
registerReceiver(mUsbReceiver, filter);
```

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PendingIntent

```
/* It is the starting point for controlling HW */
mSerial = new PL2303Driver((UsbManager)
getSystemService(Context.USB_SERVICE));

/* Register the intent */
PendingIntent permissionIntent =
PendingIntent.getBroadcast(this, 0, new Intent(
                ACTION_USB_PERMISSION), 0);
mSerial.setPermissionIntent(permissionIntent);
```

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```
/* BroadcastReceiver when insert/remove the device USB plug into/from a
USB  port */
    BroadcastReceiver mUsbReceiver = new BroadcastReceiver() {
        public void onReceive(Context context, Intent intent) {
            String action = intent.getAction();

            if (UsbManager.ACTION_USB_DEVICE_ATTACHED.
                equals(action)) {
                    mBaudrate = loadDefaultBaudrate();
                    mSerial.begin();
            }
```

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```
else if(UsbManager.ACTION_USB_DEVICE_DETACHED.
    equals(action)) {
    mSerial.usbDetached(intent);
    mSerial.end();
}
else if (ACTION_USB_PERMISSION.equals(action))
{
/* A permission response has been received, validate if the
   user has  GRANTED, or DENIED permission */
```

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```
            if (!mSerial.isConnected()) {
                        mBaudrate = loadDefaultBaudrate();
                        mSerial.begin();
                        loadDefaultSettingValues();
                        mTvSerial.setTextSize(mTextFontSize);
             }
}
```

```
unregisterReceiver(mUsbReceiver); /* Cancel listener */
```

Read Data

```
private void readDataFromSerial() {
        .
        .
        if(!mSerial.isConnected()) return;

            len = mSerial.read(rbuf);
        .
        .
}
```

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Write Data

```
private void writeDataToSerial() {

        if(!mSerial.isConnected()) return;

    String strWrite = etWrite.getText().toString();
    if (SHOW_DEBUG) {
      Log.d(TAG, "PL2303Driver Write(" + strWrite.length() + ") :
            " + strWrite);
    }
    mSerial.write(strWrite.getBytes(), strWrite.length());
  }
```

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The Drop-Down Menu Program

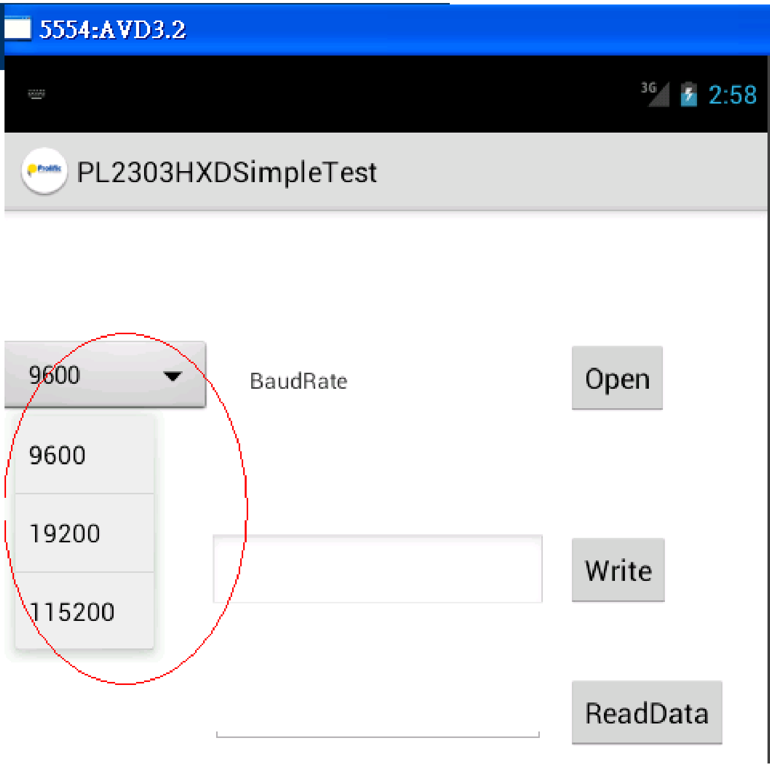
Src\PL2303HXDSimpleTest.java

```
PL2303HXD_BaudRate_spinner =
(Spinner)findViewById(R.id.spinner1);

adapter.setDropDownViewResource
   (android.R.layout.simple_spinner_dropdown_item);

PL2303HXD_BaudRate_spinner.setAdapter(adapter);
```

http://www.myandroid.tw/bbs-topic-26.sea

Res\layout\activity_pl2303_hxdsimple_test.xml

```
<Spinner
    android:id="@+id/spinner1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignTop="@+id/button1"
    android:background=
              "@android:drawable/btn_dropdown" />
```



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